

CLAIMS:

1. An organic electroluminescent device comprising:  
a substrate;

5 an anode and a cathode each located on or above the substrate, wherein one of the anode and the cathode is located above the other one; and

an organic layer located between the anode and the cathode, wherein the organic layer having at least a light  
10 emitting layer;

wherein the cathode has an electron injection layer and a protective layer, the electron injection layer has a first surface and a second surface, the first and second surfaces are on opposite sides of the electron injection  
15 layer, the first surface faces the organic layer, the second surface faces away from the organic layer, the protective layer covers the second surface to protect the electron injection layer, the electron injection layer is made of pure metal, metal alloy, or a metal compound, and the protective  
20 layer is made of pure metal or metal alloy.

2. The organic electroluminescent device according to claim 1, wherein the cathode has resistivity that is no more than resistivity of another cathode that is made of indium  
25 tin oxide and is similar in shape and size to said cathode.

3. The organic electroluminescent device according to claim 1, wherein the cathode has sheet resistivity that is more than 0  $\Omega$ /sheet and is no more than 10  $\Omega$ /sheet.

30 4. The organic electroluminescent device according to claim 1, wherein the cathode is located above the anode, the cathode is capable of transmitting light, and light emitted by the light emitting layer is outputted from the organic  
35 electroluminescent device through the cathode.

5. The organic electroluminescent device according to claim 1, wherein the anode is located above the cathode, the substrate and the cathode is capable of transmitting light, and light emitted by the light emitting layer is outputted from the organic electroluminescent device through the cathode and the substrate.

6. The organic electroluminescent device according to claim 1, wherein the electron injection layer and the protective layer are transparent.

7. The organic electroluminescent device according to claim 1, wherein the organic layer includes a contiguous portion that is contiguous to the electron injection layer, and wherein the electron injection layer is made of a material that has a work function of no more than the absolute value of the lowest unoccupied molecular orbital level of the contiguous portion.

8. The organic electroluminescent device according to claim 1, wherein the organic layer has a plurality of layers including a contiguous layer contiguous to the electron injection layer, and wherein the electron injection layer is made of a material that has a work function of no more than the absolute value of the lowest unoccupied molecular orbital level of the contiguous layer.

9. The organic electroluminescent device according to claim 1, wherein the electron injection layer includes alkaline metal or alkaline earth metal.

10. The organic electroluminescent device according to claim 9, wherein the electron injection layer is formed of calcium.

11. The organic electroluminescent device according to claim 1, wherein the protective layer is made of a material that has resistivity lower than that of a material of which the electron injection layer is formed.
12. The organic electroluminescent device according to claim 11, wherein the protective layer is formed of silver.
13. The organic electroluminescent device according to claim 1, wherein the protective layer has a thickness of 7 to 11 nm.
14. The organic electroluminescent device according to claim 1, wherein the organic layer includes at least two light emitting layers in which the light emitting layers are operable for emitting light of different colors from one another.
15. The organic electroluminescent device according to claim 14, wherein the number of the light emitting layers is three.
16. The organic electroluminescent device according to claim 15, wherein the colors are green, blue, and red.
17. An organic electroluminescent device comprising:  
a substrate;  
an anode located on the substrate;  
an organic layer located on the anode, wherein the organic layer having at least a light emitting layer; and  
a cathode located on the organic layer;  
wherein the cathode has an electron injection layer of calcium and a protective layer of silver, the electron injection layer has a first surface and a second surface, the

first and second surfaces are on opposite sides of the electron injection layer, the first surface faces the organic layer, the second surface faces away from the organic layer, the protective layer covers the second surface to protect the electron injection layer, the cathode is capable of transmitting light, and light emitted by the light emitting layer is outputted from the organic electroluminescent device through the cathode.

- 10 18. An organic electroluminescent device comprising:  
a substrate;  
a cathode located on the substrate;  
an organic layer located on the cathode, the organic layer having at least a light emitting layer; and  
15 an anode located on the organic layer;  
wherein the cathode has an electron injection layer of calcium and a protective layer of silver, the electron injection layer has a first surface and a second surface, the first and second surfaces are on opposite sides of the  
20 electron injection layer, the first surface faces the organic layer, the second surface faces away from the organic layer, the protective layer covers the second surface to protect the electron injection layer, the substrate and the cathode is capable of transmitting light, and light emitted by the light  
25 emitting layer is outputted from the organic electroluminescent device through the cathode and the substrate.